We Claim:

1. A crystalline bicalutamide of form II.

2. The bicalutamide according to claim 1, having an IR absorbance peak at 847 cm^{-1} +/- 5 cm^{-1}.

3. The bicalutamide according to claim 1, having an IR absorbance spectra substantially as shown in figure 4.

4. The bicalutamide according to claim 1, having an x-ray diffraction peak at an angle of about 25.9°.

5. The bicalutamide according to claim 4, having an x-ray diffraction peak at an angle of 25.85° +/- 0.05°.

6. The bicalutamide according to claim 1, having x-ray diffraction peaks at angles of about 11.6°, 13.0°, 18.1°, 24.4°, 25.3-25.9°, 26.7°, 29.9° and 33.6°.

7. The bicalutamide according to claim 1, having x-ray diffraction peaks at angles of about 11.6°, 13.0°, 16.2°, 18.1°, 24.4°, 25.3-25.9°, 26.7°, 29.9° and 33.6°.

8. The bicalutamide according to claim 1, wherein said bicalutamide has an x-ray diffractogram substantially as shown in figure 2.

9. The bicalutamide according to claim 1, wherein said bicalutamide is racemic bicalutamide.

10. The bicalutamide according to claim 1, wherein said bicalutamide is at least 90% pure form II bicalutamide.

11. Crystalline bicalutamide having an x-ray diffraction peak at an angle of about 25.9°.

12. A bicalutamide in amorphous form.

13. A composition comprising crystalline bicalutamide of form II and at least one of crystalline bicalutamide of form I and amorphous bicalutamide.

14. A pharmaceutical composition comprising the bicalutamide of form II according to claim 1, and a pharmaceutically acceptable excipient.

15. The pharmaceutical composition according to claim 14, wherein said composition is a unit dose and said bicalutamide of form II is contained in an antiandrogenic effective amount.

16. The pharmaceutical composition according to claim 15, wherein said composition is substantially free of form I bicalutamide.

17. The pharmaceutical composition according to claim 14, wherein said pharmaceutically acceptable excipient is a carrier or diluent.

18. The pharmaceutical composition according to claim 17, wherein said excipient is selected from the group consisting of calcium phosphates, microcrystalline cellulose, hydroxypropyl methylcellulose, lactose, and starches.

19. The pharmaceutical composition according to claim 14, wherein said composition is a solid oral dosage form.

20. The pharmaceutical composition according to claim 14, wherein said composition is a solution or suspension.

21. The pharmaceutical composition according to claim 14, which further comprises bicalutamide form I.

22. The pharmaceutical composition according to claim 21, wherein the relative amount of bicalutamide form II is within the range of 0.1 - 99.9% based on the total weight of all forms of bicalutamide.

23. A method for producing an antiandrogenic effect, which comprises administering an antiandrogenic effective amount of the bicalutamide according to claim 1 to a mammal in need thereof.

24. A process, which comprises precipitating bicalutamide form II from a solution containing bicalutamide.

25. The process according to claim 24, wherein said precipitation is carried out in the presence of seed crystals of bicalutamide form II.

26. The process according to claim 24, wherein said precipitation is carried out by lowering the temperature of the bicalutamide solution and/or contacting said bicalutamide solution with a contrasolvent.

27. The process according to claim 24, wherein said precipitation occurs at a temperature of 35°C or higher.

28. A process which comprises heating an amorphous bicalutamide to form one or more crystals of bicalutamide form II.

29. A process which comprises heating a solid form of bicalutamide to form a melt and cooling said melt to form amorphous bicalutamide.